

**PAJUNK®**

*LapVision –  
The Breakthrough in  
Laparoscopic Diagnostics*



Laparoscopic

# *Always in Plain View*

## *Pre- and postoperative diagnostics*

Today, the repertoire of operative options can not do without laparoscopic surgery. It is regarded as the trend of the century and as a revolution in operative technology. While the instruments and the equipment are, however, becoming more and more advanced, classic laparoscopy is still always connected with general anaesthesia, a CO<sub>2</sub> pneumoperitoneum, and the invasive accessing of the abdominal cavity. There still remains a discrepancy between the risks for the patient resulting therefrom and the technical necessities on the one hand and the gain in diagnostic information on the other hand.

And accordingly high is the reluctance to perform diagnostic laparoscopy in cases with relative indications. It is accompanied by:

- delayed diagnostic predication
- an increased risk for the patient
- uncertainty for the therapist
- and a prolongation of bed-confinement

Before this background, Dr. Volland has pursued the idea of a new, gas-less method for the minimally invasive intervention, and has found PAJUNK® to be the ideal development partner. The result of this cooperation is LapVision – a balloon system which can be utilized for preoperative diagnosis, and also for the postoperative “second look” as well.

PAJUNK® has developed this system further, and with LapVision Biopsy, it now can offer a combined instrument system which also permits the comprehensive extraction of biopsy material in addition, aside of the excellent diagnostic functions of the system.



# *Convincing Alternative*

## **Diagnostics without side effects**

The diagnostic balloon system LapVision, a "gas-less" alternative method, permits the organs in the abdomen to be (directly) examined by means of an endoscope introduced via a "two-

chambered balloon". This provides clear advantages for the patient, as compared with conventional laparoscopy:

### **Hardly any side effects**

The post-operative pain is considerably less – the typical shoulder pains after a pneumoperitoneum are avoided.

### **Reduced recovery time after the operation**

This intervention is less invasive and does not require narcosis.

### **Consistently good imaging quality**

The scope with a diameter of 3.5 mm guarantees for perfect access and best viewing.

### **Lower medical costs**

The technical equipment required is very limited. And the intervention can also be performed on an out-patient basis.

Laparoscopic diagnostics are primarily suitable for the following fields of application:

- Unclear/vague abdomen
- "Second look" after complicated abdominal interventions
- Staging laparoscopy



Closure-stylet



Diagnostic port



Optical trocar with an atraumatic tip geometry



Diagnostic balloon system with reinforcement tube



Stabilizing rod for easier introduction of the balloon system into the diagnostic port

*Perfect Viewing at Any Time*

## *The use of LapVision in the abdomen*

During the minimally invasive intervention, the diagnostic balloon system LapVision will guarantee perfect orientation at any time. Already the introduction of the diagnostic port into the abdomen is performed under viewing control. The two-chamber balloon ensures for maximum stability of the

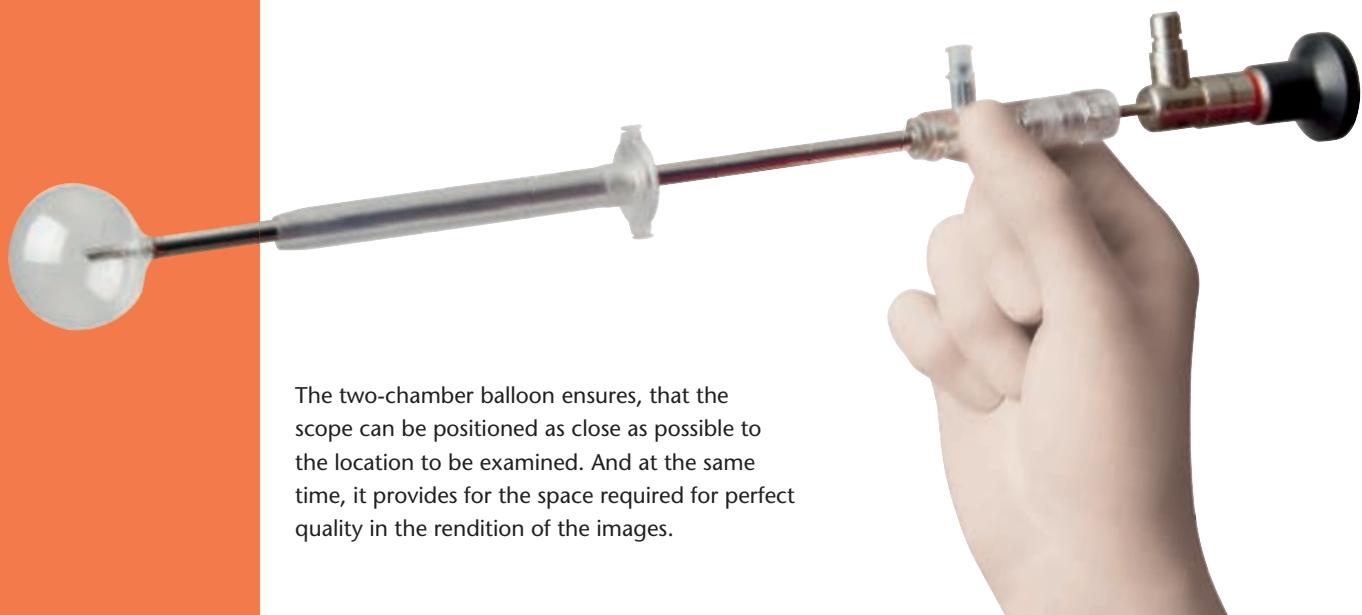
scope when manoeuvring the instruments without a pneumoperitoneum. Protected by the balloon, the miniature scope can be positioned directly where the examination is to be performed, and it provides images in convincing quality.



This diagnostic port is introduced into the abdomen under viewing by way of an incision.



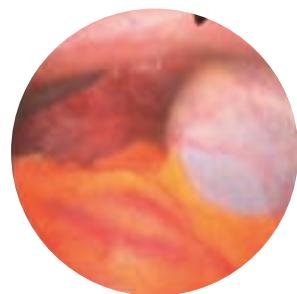
The system is ready for use for optimal diagnostic examination in the abdomen.



The two-chamber balloon ensures, that the scope can be positioned as close as possible to the location to be examined. And at the same time, it provides for the space required for perfect quality in the rendition of the images.



Appendix



Liver and gall



Oviduct

## *Well Conceived*

# *Precision in detail*



### **For perfect viewing: Miniature scope**

The trocar is equipped with a transparent tip (optical trocar), into which the "miniature scope" with a diameter of 3.5 mm is positioned. Introduction into the abdomen can therefore be continuously monitored visually.



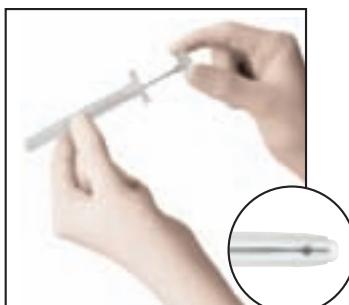
### **More stability: Two-chamber balloon**

The balloon has a second chamber in the back part, which is simultaneously inflated with air. This provides it with greater stability when manoeuvring in the abdominal space. With a diameter of 3 cm, the balloon constitutes the optimal compromise between mobility and overview inside the abdomen – best prerequisites for good viewing.



### **Well protected: Stainless steel shaft**

Thanks to a prolonged shaft, practically any location can be reached in the peritoneum. This shaft has been manufactured of stainless steel, to protect and stabilize the scope.



### **Final safety check: Second look**

For postoperative control, a diagnostic port can be introduced after the actual operation, and it can be steriley sealed by means of a closure-stylet. The diagnostic port itself is sewn to the abdominal wall by applying two sutures. The seal is very flat, thereby avoiding bulky projections, and ensuring optimal comfort for the patient.

# LapVision Biopsy

## Diagnostics and biopsy in one system

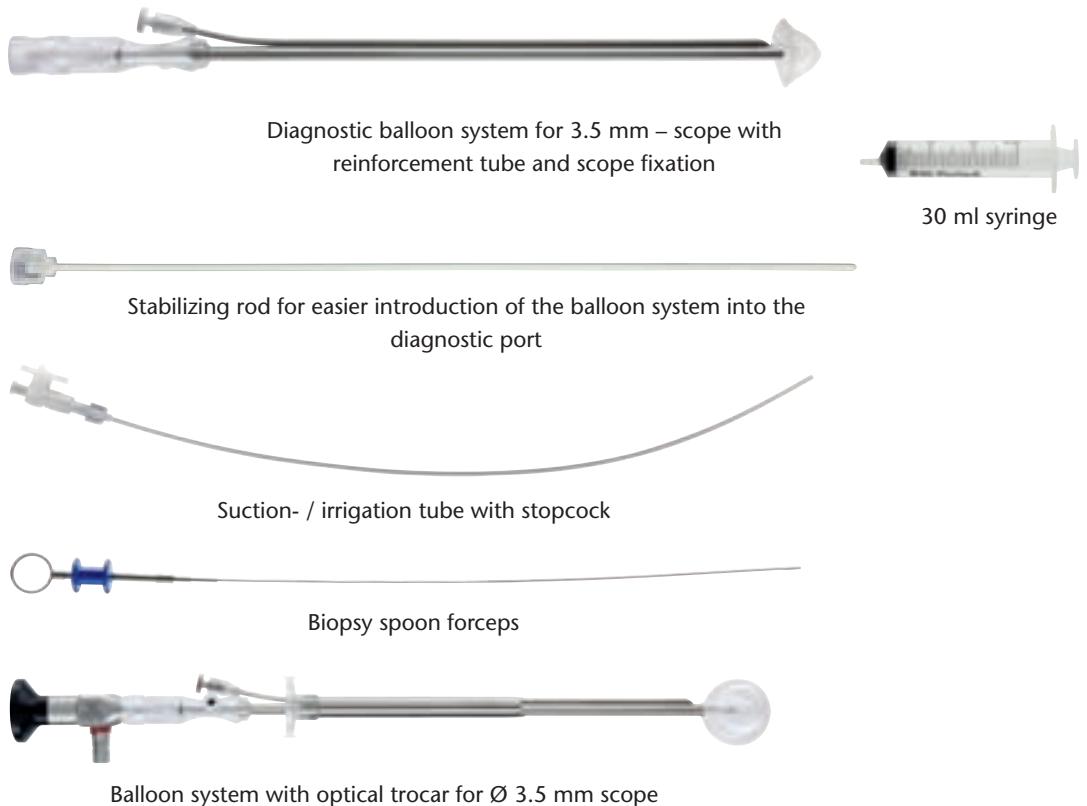
PAJUNK® has developed LapVision Biopsy to facilitate the contemporaneous extraction of biopsy material, if such should be required. With this combined instrument system, the retrieval of biopsy material can be performed by way of an additionally affixed biopsy channel without the use of an additional trocar. This saves time and helps

in avoiding a second operative intervention. The combined system consists of a complete set of LapVision instruments and includes a fully functioning biopsy system in addition. This system features an independent biopsy channel, a suction- and irrigation system, as well as a pair of biopsy spoon forceps:



Biopsy channel with closure stylet

### Diagnostic balloon system with biopsy channel



### Biopsy port



### Wide-angle laparoscope



Wide-angle laparoscope Ø 3.5 mm, viewing angle 30°, working length 302 mm, autoclavable

### LapVision Biopsy spoon forceps



Flexible biopsy spoon forceps  
Ø 2.3 mm/400 mm, double action



1) Introduction of the diagnostic port into the abdomen under viewing by way of an incision. The opening at the front end of the biopsy channel is closed up by means of a rounded closure so that no tissue will be caught there.



2) Identification of inflammations/bleeding or nodes.

3) Decision for an immediate extraction of biopsy material.



4) Introduction of the biopsy forceps by way of the biopsy channel for the extraction of the biopsy material. These are so flexible, so that damaging of the balloon can be excluded. The outlet of the biopsy channel is located in the immediate proximity of the visibility range of the scope.



5) The specimen is taken in the immediate vicinity of the balloon – always in the visibility range of the scope.

6) The suction- / irrigation tube ensures for optimal operative prerequisites.

# All the information at a glance

## Diagnostic balloon system



### LapVision – diagnostic balloon system for scope Ø 3.5 mm acc. to Volland

Balloon system with reinforcement tube and scope fixation, stabilizing rod for introduction of balloon and 30 ml syringe

Item no. PU

1281-10-35 5



### LapVision – diagnostic port acc. to Volland

Flexible port, optical trocar for scope Ø 3.5 mm and sealing stylet for port

Item no. PU

1281-15-35 5

## Diagnostic balloon system with biopsy channel



### LapVision Biopsy – diagnostic balloon system for scope Ø 3.5 mm

Balloon system with reinforcement tube and scope fixation, stabilizing rod for introduction of balloon and 30 ml syringe, biopsy channel with closure stylet, suction- / irrigation tube with stopcock

Item no. PU

1281-20-35 5



### LapVision Biopsy port

Trocar sleeve for LapVision Biopsy, optical trocar for scope Ø 3.5 mm

Item no. PU

1281-25-35 5



### LapVision Biopsy – flexible biopsy –

Biopsy spoon forceps Ø 2.3 mm/400 mm, double action for LapVision Biopsy balloon system

Item no. PU

1281-20-50 1



### Wide-angle laparoscope Ø 3.5 mm

Viewing angle 30°, working length 302 mm, autoclavable, for LapVision systems

Item no. PU

1281-00-35 1



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Biopsy spoon forceps